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(FILE 'HOME' ENTERED AT 15:26:49 ON 02 MAR 2006)

FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, JAPIO' ENTERED AT 15:27:05 ON 02
MAR 2006

L1 7736 S ADRENOMEDULLIN?
L2 1 S L1 AND CHAOTROPIC?
L3 2667 S (PEPTIDE FRACTION)
L4 0 S L1 AND L3
L5 169 S (ADRENOMEDULLIN BIND?)
L6 69 DUPLICATE REMOVE L5 (100 DUPLICATES REMOVED)
L7 3 S L6 AND DISSOC?

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ANSWER 1 OF 3 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

AN 1998:36505 BIOSIS

DN PREV199800036505

TI Specific **adrenomedullin binding** sites in the human brain.

AU Sone, Masahiko; Takahashi, Kazuhiro [Reprint author]; Satoh, Fumitoshi; Murakami, Osamu; Totsune, Kazuhito; Ohneda, Makoto; Sasano, Hironobu; Ito, Hisao; Mouri, Toraichi

CS Dep. Applied Physiol., Molecular Biol., Tohoku Univ. Sch. Med., 2-1 Seiryomachi, Aoba-ku, Sendai, Miyagi 980-77, Japan

SO Peptides (Tarrytown), (1997) Vol. 18, No. 8, pp. 1125-1129. print. CODEN: PPTDD5. ISSN: 0196-9781.

DT Article

LA English

ED Entered STN: 14 Jan 1998
Last Updated on STN: 24 Feb 1998

AB Binding sites for adrenomedullin in human brain were investigated and characterized by radioligand binding. Specific binding sites for adrenomedullin were present in every region of human brain (cerebral cortex, cerebellum, thalamus, hypothalamus, pons and medulla oblongata) obtained at autopsy. Despite the homology with calcitonin gene-related peptide (CGRP), CGRP was a poor inhibitor of (125I)**adrenomedullin binding** ($IC_{50} > 1 \text{ mM}$) compared with adrenomedullin(1-52) ($IC_{50} = 1.2 \pm 0.5 \text{ nM}$, mean \pm SEM, $n = 3$). Three adrenomedullin fragments, adrenomedullin (1-12), adrenomedullin (22-52), and adrenomedullin (13-52), were also poor inhibitors of the binding ($IC_{50} = 0.3 \mu\text{M}$), suggesting that the whole molecule of adrenomedullin (1-52) is required for binding to the receptor. Scatchard plots of (125I)**adrenomedullin binding** in human brain (cerebral cortex) gave a dissociation constant of $0.17 \pm 0.03 \text{ nM}$ and maximal binding of $99.3 \pm 1.9 \text{ fmol/mg protein}$ ($n = 5$). These findings suggest that specific **adrenomedullin binding** sites that differ from the CGRP receptors exist in human brain. This indicates a possible novel neurotransmitter/neuromodulator role for adrenomedullin in human brain.

CC Nervous system - Physiology and biochemistry 20504
Biochemistry studies - Proteins, peptides and amino acids 10064
Physiology - General 12002
Metabolism - Proteins, peptides and amino acids 13012
Endocrine - Adrenals 17004
Endocrine - Neuroendocrinology 17020
Nervous system - Anatomy 20502

IT Major Concepts
Endocrine System (Chemical Coordination and Homeostasis); Nervous System (Neural Coordination)

IT Parts, Structures, & Systems of Organisms
brain: nervous system, specific **adrenomedullin binding** sites

IT Chemicals & Biochemicals
adrenomedullin; neuromodulators; neurotransmitters; peptides; proteins

ORGN Classifier
Hominidae 86215
Super Taxa
Primates; Mammalia; Vertebrata; Chordata; Animalia
Organism Name
human
Taxa Notes
Animals, Chordates, Humans, Mammals, Primates, Vertebrates

RN 154835-90-2 (adrenomedullin)

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Nervous system - Anatomy 20502

IT Major Concepts
Endocrine System (Chemical Coordination and Homeostasis); Nervous System (Neural Coordination)

IT Parts, Structures, & Systems of Organisms
brain: nervous system, specific **adrenomedullin binding** sites

IT Chemicals & Biochemicals
adrenomedullin; neuromodulators; neurotransmitters; peptides; proteins

ORGN Classifier
Hominidae 86215
Super Taxa
Primates; Mammalia; Vertebrata; Chordata; Animalia
Organism Name
human
Taxa Notes
Animals, Chordates, Humans, Mammals, Primates, Vertebrates

RN 154835-90-2 (adrenomedullin)

ANSWER 2 OF 3 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

AN 1997:302618 BIOSIS

DN PREV199799601821

TI Expression of adrenomedullin (ADM) and its binding sites in the rat uterus: Increased number of binding sites and ADM messenger ribonucleic acid in 20-day pregnant rats compared with nonpregnant rats.

AU Upton, Paul D.; Austin, Carol; Taylor, Gillian M.; Nandha, Kiran A.; Clark, Adrian J. L.; Ghatei, Mohammad A.; Bloom, Stephen R.; Smith, David M. [Reprint author]

CS Div. Endocrinol. Metabolic Med., Royal Postgraduate Med. Sch., Hammersmith Hosp., Du Cane Rd., London W12 0NN, UK

SO Endocrinology, (1997) Vol. 138, No. 6, pp. 2508-2514. CODEN: ENDOAO. ISSN: 0013-7227.

DT Article

LA English

ED Entered STN: 9 Jul 1997

Last Updated on STN: 5 Aug 1997

AB RIA of nonpregnant rat uterus extracts showed 0.68 +/- 0.08 pmol/g adrenomedullin (ADM) and 3.23 +/- 0.08 pmol/g calcitonin gene-related peptide (CGRP). In the pregnant (20 days gestation) uterus, the ADM content was 0.90 +/- 0.17 pmol/g, and CGRP could not be detected. ADM messenger RNA was detected at high levels in the uterus, with a 1.8-fold increase in expression in pregnancy. Pharmacologically distinct binding sites for ADM (B-max 21 +/- 2 fmol/mg protein, **dissociation** constant = 80 +/- 6 pM), and CGRP (B-max = 101 +/- 18 fmol/mg protein, **dissociation** constant = 140 +/- 20 pM) were identified in nonpregnant uterus. Competition for 125I(Tyr-0)alpha-CGRP binding was shown by both ADM and CGRP (8-37), whereas CGRP and CGRP (8-37) did not compete for 125I-ADM-binding sites. The density of the ADM-binding sites was 10 times greater in pregnant uterus (B-max = 211 +/- 39 fmol/mg protein, P < 0.01) than nonpregnant uterus. CGRP receptor messenger RNA was identified in both non pregnant and pregnant uteri. In isolated nonpregnant rat uteri, CGRP and ADM attenuated the contractile response to galanin by 77 +/- 10% and 57 +/- 10%, respectively. The responses to both CGRP and ADM were abolished by CGRP (8-37). These results demonstrate, for the first time, the presence of ADM and specific binding sites for both ADM and CGRP in the rat uterus.

CC Genetics - Animal 03506
 Biochemistry studies - General 10060
 Reproductive system - General and methods 16501
 Endocrine - General 17002

IT Major Concepts
 Biochemistry and Molecular Biophysics; Endocrine System (Chemical Coordination and Homeostasis); Genetics; Reproductive System (Reproduction)

IT Chemicals & Biochemicals
 ADRENOMEDULLIN; CALCITONIN GENE-RELATED PEPTIDE

IT Miscellaneous Descriptors
 ADRENOMEDULLIN; **ADRENOMEDULLIN BINDING SITES**;
 CALCITONIN GENE-RELATED PEPTIDE; EXPRESSION; MESSENGER RNA; MRNA;
 PREGNANCY; PREGNANT; REPRODUCTIVE SYSTEM; UTERUS

ORGN Classifier
 Muridae 86375
 Super Taxa
 Rodentia; Mammalia; Vertebrata; Chordata; Animalia
 Organism Name
 rat
 Taxa Notes
 Animals, Chordates, Mammals, Nonhuman Vertebrates, Nonhuman Mammals, Rodents, Vertebrates

RN 154835-90-2 (ADRENOMEDULLIN)
 83652-28-2 (CALCITONIN GENE-RELATED PEPTIDE)

ANSWER 2 OF 3 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

AN 1997:302618 BIOSIS

DN PREV199799601821

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 Biochemistry studies - General 10060
 Reproductive system - General and methods 16501
 Endocrine - General 17002

IT Major Concepts
 Biochemistry and Molecular Biophysics; Endocrine System (Chemical Coordination and Homeostasis); Genetics; Reproductive System (Reproduction)

IT Chemicals & Biochemicals
 ADRENOMEDULLIN; CALCITONIN GENE-RELATED PEPTIDE

IT Miscellaneous Descriptors
 ADRENOMEDULLIN; **ADRENOMEDULLIN BINDING SITES**;
 CALCITONIN GENE-RELATED PEPTIDE; EXPRESSION; MESSENGER RNA; MRNA;
 PREGNANCY; PREGNANT; REPRODUCTIVE SYSTEM; UTERUS

ORGN Classifier
 Muridae 86375
 Super Taxa
 Rodentia; Mammalia; Vertebrata; Chordata; Animalia
 Organism Name
 rat
 Taxa Notes
 Animals, Chordates, Mammals, Nonhuman Vertebrates, Nonhuman Mammals, Rodents, Vertebrates

RN 154835-90-2 (ADRENOMEDULLIN)
 83652-28-2 (CALCITONIN GENE-RELATED PEPTIDE)

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AN 1995:265181 BIOSIS

DN PREV199598279481

TI An Abundant and Specific Binding Site for the Novel Vasodilator
Adrenomedullin in the Rat.

AU Owji, Ali A.; Smith, David M.; Coppock, Hedley A.; Morgan, David G. A.;
Bhagal, Ranjev; Ghatei, Mohammad A.; Bloom, Stephen R. [Reprint author]

CS Endocrine Unit, Dep. Med., Royal Postgraduate Medical School, Hammersmith
Hospital, DuCane Road, London W12 ONN, UK

SO Endocrinology, (1995) Vol. 136, No. 5, pp. 2127-2134.
CODEN: ENDOAO. ISSN: 0013-7227.

DT Article

LA English

ED Entered STN: 26 Jun 1995
Last Updated on STN: 26 Jun 1995

AB Rat adrenomedullin is a novel 50-amino acid peptide with structural
similarities to the calcitonin family of peptides, calcitonin, calcitonin
gene-related peptide (CGRP), and islet amyloid polypeptide (IAPP). Using
rat (125I)adrenomedullin, specific binding sites were demonstrated in
heart, lung, spleen, liver, soleus, diaphragm, gastrocnemius, and spinal
cord membranes. The highest binding was present in heart and lung, which
was further characterized. These sites exhibited saturation,
dissociation, and competition. In rat lung, only rat (IC-50 = 5.8
nM) and human (IC-50 = 94 nM) adrenomedullin competed with
(125I)adrenomedullin. However, in rat heart, rat (IC-50 = 0.2 nM) and
human (IC-50 = 4.2 nM) adrenomedullin, IAPP (IC-50 = 240 nM), and CGRP
(IC-50 = 1050 nM) all competed with (125I) adrenomedullin. Saturation
analysis revealed binding capacities and **dissociation** constants
of 2.8 +/- 0.3 pmol/mg protein and 1.3 +/- 0.3 nM, respectively, in lung and
0.47 +/- 0.11 pmol/mg protein and 0.41 +/- 0.14 nM in heart. Comparison
with (125I)CGRP- and (125I)IAPP-binding sites in lung showed that rat
adrenomedullin could potentially inhibit at these sites (IC-50 = 5 and 6 nM,
respectively). Chemical cross-linking demonstrated a major band of 83,000
mol wt in lung, diaphragm, spleen, and liver and a band of 94,000 mol wt
in heart, soleus, and gastrocnemius. Thus, (125I)**adrenomedullin**
-binding sites in rat lung are abundant and can be
differentiated from binding sites in rat heart, both pharmacologically and
by mol weight

CC Biochemistry studies - Proteins, peptides and amino acids 10064
Biophysics - Membrane phenomena 10508
Metabolism - Proteins, peptides and amino acids 13012
Digestive system - Physiology and biochemistry 14004
Cardiovascular system - Physiology and biochemistry 14504
Blood - Lymphatic tissue and reticuloendothelial system 15008
Respiratory system - Physiology and biochemistry 16004
Endocrine - Adrenals 17004
Muscle - Physiology and biochemistry 17504
Nervous system - Physiology and biochemistry 20504

IT Major Concepts
Blood and Lymphatics (Transport and Circulation); Cardiovascular System
(Transport and Circulation); Digestive System (Ingestion and
Assimilation); Endocrine System (Chemical Coordination and
Homeostasis); Membranes (Cell Biology); Metabolism; Muscular System
(Movement and Support); Nervous System (Neural Coordination);
Respiratory System (Respiration)

IT Chemicals & Biochemicals
CALCITONIN; CALCITONIN GENE-RELATED PEPTIDE; AMYLOID

IT Miscellaneous Descriptors
CALCITONIN; CALCITONIN GENE-RELATED PEPTIDE; DIAPHRAGM; GASTROCNEMIUS;
HEART; ISLET AMYLOID POLYPEPTIDE; LIVER; LUNG; SOLEUS; SPINAL CORD
MEMBRANE; SPLEEN

ORGN Classifier
Muridae 86375
Super Taxa

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by mol weight

CC Biochemistry studies - Proteins, peptides and amino acids 10064
Biophysics - Membrane phenomena 10508
Metabolism - Proteins, peptides and amino acids 13012
Digestive system - Physiology and biochemistry 14004
Cardiovascular system - Physiology and biochemistry 14504
Blood - Lymphatic tissue and reticuloendothelial system 15008
Respiratory system - Physiology and biochemistry 16004
Endocrine - Adrenals 17004
Muscle - Physiology and biochemistry 17504
Nervous system - Physiology and biochemistry 20504

IT Major Concepts
Blood and Lymphatics (Transport and Circulation); Cardiovascular System
(Transport and Circulation); Digestive System (Ingestion and
Assimilation); Endocrine System (Chemical Coordination and
Homeostasis); Membranes (Cell Biology); Metabolism; Muscular System
(Movement and Support); Nervous System (Neural Coordination);
Respiratory System (Respiration)

IT Chemicals & Biochemicals
CALCITONIN; CALCITONIN GENE-RELATED PEPTIDE; AMYLOID

IT Miscellaneous Descriptors
CALCITONIN; CALCITONIN GENE-RELATED PEPTIDE; DIAPHRAGM; GASTROCNEMIUS;
HEART; ISLET AMYLOID POLYPEPTIDE; LIVER; LUNG; SOLEUS; SPINAL CORD
MEMBRANE; SPLEEN

ORGN Classifier
Muridae 86375
Super Taxa

Rodentia; Mammalia; Vertebrata; Chordata; Animalia

Organism Name

Muridae

Taxa Notes

Animals, Chordates, Mammals, Nonhuman Vertebrates, Nonhuman Mammals,
Rodents, Vertebrates

RN 9007-12-9 (CALCITONIN)
83652-28-2 (CALCITONIN GENE-RELATED PEPTIDE)
11061-24-8 (AMYLOID)

=>

Rodentia; Mammalia; Vertebrata; Chordata; Animalia

Organism Name

Muridae

Taxa Notes

Animals, Chordates, Mammals, Nonhuman Vertebrates, Nonhuman Mammals,
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